

## REMARKS/ARGUMENTS

Claims 1-8, 10-33, 35-48, 50, 51 and 53-55 are pending in the application. The Examiner has rejected claims 1-3, 5, 10-13, 15-19, 23-30, 35, 36, 45, 50, 53 and 54. The Examiner has objected to claims 4, 6-8, 14, 20-22, 31-33, 46-48 and 51. The Examiner has allowed claims 37-44 and 55. Applicant has amended claims 36 and 54. Applicant respectfully requests reconsideration of pending claims 1-8, 10-33, 35, 36, 45-48, 50, 51, and 53-55.

### Reply to the Examiner's Response to Arguments

Regarding claim 1, in the Examiner's Response to Arguments, the Examiner states as follows:

#### **Claim 1 et al. with regard to 103 Motivation:**

It is apparent that the applicant and the examiner respectfully disagree with another over the motivation and legal precedence of the combination of used references. The examiner is willing to accept judgment thereon from the BOA, if the case comes to that conclusion, rather than continually the same points.

Applicant submits additional arguments below to supplement Applicant's previously submitted arguments. Applicant respectfully requests the Examiner consider such additional arguments. Regarding the remainder of the Examiner's Response to Arguments, Applicant submits Applicant has previously replied to such Response to Arguments.

### Rejection of claims 45 and 50 under 35 U.S.C. § 103(a):

The Examiner has rejected claims 45 and 50 under 35 U.S.C. § 103(a) as allegedly being unpatentable over US Patent No. 6,978,398 of Harper et al. referred to hereinafter as "Harper '398" in view of US Patent No. 4,245,342 of Entenman. Applicant respectfully disagrees.

The Examiner notes that Harper '398 (see column 1 lines 8-12) incorporates by reference US Patent No. 6, 629,266 of Harper et al. referred to hereinafter as "Harper '266", which is introduced in the rejection below.

#### **Claim 45:**

Regarding claim 45, the Examiner states as follows:

In regards to claim 45, Harper '398 discloses a method of facilitating protection switching comprising:

facilitating a protection switching configuration operation wherein a failure prediction condition for at least a portion of a plurality of protected system elements is defined (see column 2 lines 23-26);

facilitating a failure confirmed protection switching operation in response to identifying that the failure prediction condition for one of said protected has been met during operation of said protected system elements (see column 6 lines 18-25);

facilitating an administrator-initiated protection switching operation in response to receiving, at a system administrator user interface (figure 18 or Harper '266) of a protected system comprising the plurality of protected system elements, an administrator-issued protection switching initiation notification (see column 4 lines 20-27 of incorporated by reference Harper '266).

However, Harper '398 fails to explicitly disclose:

specifying a protection switching priority for at least a portion of said protected system elements;

determining that the protection switching priority among a collection of failure predicted system elements applies to the one of said protected system elements prior to facilitating the failure confirmed protection switching operation.

Entenman further discloses in case of multiple failures, allotting a spare device among the devices in accordance with a priority algorithm (see column 6 lines 38-42); and determining that the protection switching priority among a collection of failure predicted system elements applies to the one of said protected system elements prior to facilitating the failure confirmed protection switching operation (column 6, lines 38-42).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Harper and Entenman [*sic*] to allot a spare device among the devices in accordance with a priority algorithm, thus indicating specifying a protection switching priority for at least a portion of said protected system elements. A person of ordinary skill in the art could have been motivated to combine the teachings because Harper is concerned with failing over nodes for preventing degradation of performance (see figure 5b; column 1 lines 62-65, column 2 lines 23-26, and column 6 lines 39-42), and allotting a spare device among the devices in accordance with a priority algorithm, as per teachings of Entenman (see column 6 lines 38-42), constitutes as suitable known means for failing over nodes.

With respect to claim 45, the Examiner alleges "Entenman further discloses in case of multiple failures, allotting a spare device among the devices in accordance with a priority algorithm (see column 6 lines 38-42); and determining that the protection switching priority among a collection of failure predicted system elements applies to the one of said protected system elements prior to facilitating the failure confirmed protection switching operation (column 6, lines 38-42)." However, Applicant notes column 6, lines 38-42 of the Entenman reference state, "In the arrangement of FIG. 2 microprocessor controlled apparatus is employed; and may allot the spare modem among the modules 10 in accordance with any desired priority algorithm (fixed or changing)." Applicant submits such teaching, even if an attempt were made to combine it with the alleged teachings of the cited portions of the other cited references, fails to disclose the subject matter recited in claim 45. As an example, Applicant submits such teaching fails to disclose "...prior to facilitating the failure confirmed

protection switching operation." Thus, Applicant submits the Examiner has not made a *prima facie* showing of obviousness with respect to claim 45. Therefore, Applicant submits claim 45 is in condition for allowance.

**Claim 50:**

Regarding claim 50, the Examiner states as follows:

In regards to claims 50, Harper '398 in view of Entenman discloses the claim limitations as discussed above. Harper '398 further discloses:

downloading service information of the failure predicted one of said protected system elements to the protection system element after identifying the failure predicted one of said protected system elements (see column 2 lines 23-26);

confirming failure of the first failure predicted one of said protected system elements (see column (see column 6 lines 20-25); and

switching communication service supported by the failure predicted one of said protected system elements for being supported by to the protection system element after confirming said failure (see column 6 lines 20-25).

Regarding claim 50, Applicant submits the cited portions fail to disclose or render obvious the subject matter of claim 50. As an example, while the Examiner cites "(see column 2 lines 23-26)" of the Harper '398 reference as allegedly disclosing "downloading service information of the failure predicted one of said protected system elements to the protection system element after identifying the failure predicted one of said protected system elements," Applicant submits "...migrating the state of the primary node to another node in the computer system, wherein there is other than a one-to-one relationship between the another node and the primary node" does not teach or suggest, for example, "...after identifying the failure predicted one of said protected system elements." Accordingly, Applicant submits the Examiner has not cited teaching as to "...identifying the failure predicted one of said protected system elements." Thus, Applicant submits the Examiner has not made a *prima facie* showing of obviousness with respect to claim 50. Therefore, Applicant submits claim 50 is in condition for allowance.

**Rejection of claims 1-3, 5, 10, 12-13, 15-19, 23, 27, 29-30, 35, and 36 under 35 U.S.C. § 103(a):**

The Examiner has rejected claims 1-3, 5, 10, 12-13, 15-19, 23, 27, 29-30, 35, and 36 under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 6,978,398 (Harper '398 (which

incorporates by reference Harper '266)) in view of U.S. Patent No. 4,245,342 of Entenman and US Patent No. 4,769,761 of Downes et al. referred to hereinafter as "Downes".

**Claim 1:**

Regarding claim 1, the Examiner states as follows:

In regards to claim 1, Harper '398 discloses a method of facilitating protection switching to enhance performance of a network system, comprising:

identifying a failure predicted one (see column 2 lines 19-23) of a plurality of protected system elements (see column 4 lines 23-27); and

implementing a protection switching operation for switching designated information from the failure predicted one of said protected system elements to a protection system element (see column 2 lines 23-26).

However, Harper '398 fails to explicitly disclose:

wherein identifying the failure predicted on of said protected system elements includes assessing performance of said protected system elements based at least partially on an element demerit point level of each one of said protected system elements

and at least partially on a protection switching priority for at least a portion of said protected system elements.

Entenman further discloses in case of multiple failures, allotting a spare device among the devices in accordance with a priority algorithm (see column 6 lines 38-42).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Harper and Entenman to allot a spare device among the devices in accordance with a priority algorithm, thus indicating at least partially on a protection switching priority for at least a portion of said protected system elements. A person of ordinary skill in the art could have been motivated to combine the teachings because Harper is concerned with failing over nodes (see column 2 lines 23-26; figure 5b and column 6 lines 39-42), and allotting a spare device among the devices in accordance with a priority algorithm, as per teachings of Entenman (see column 6 lines 38-42), constitutes as suitable known means for failing over nodes that further enables recovery of higher priority device.

Downes further discloses the concept of predicting a failure upon determination the error count over a selected number of operations is above a criterion or threshold (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Harper, Entenman, and Downes to further including predicting a failure upon determination the error count over a selected number of operations is above a criterion or threshold, thus indicating wherein identifying the failure predicted on of said protected system elements includes assessing performance of said protected system elements based at least partially on an element demerit point level of each one of said protected system elements. A person of ordinary skill in the art could have been motivated to combine the teachings because Harper is concerned with detecting degradation of performance of a computer system (see column 1 lines 60-65), and monitoring the error count over a selected number of operations, as per teachings of

Downes (abstract), constitutes as suitable known means to detect degradation of performance of a computer system.

With respect to claim 1, while the Examiner cites "(see column 6 lines 38-42)" of the Entenman reference as allegedly teaching "wherein identifying the failure predicted one of said protected system elements includes assessing performance of said protected system elements based at least partially on an element demerit point level of each one of said protected system elements and at least partially on a protection switching priority for at least a portion of said protected system elements," Applicant submits the cited portion of the Entenman reference states, "In the arrangement of FIG. 2 microprocessor controlled apparatus is employed; and may allot the spare modem among the modules 10 in accordance with any desired priority algorithm (fixed or changing)." Applicant notes the Examiner also cites "(see column 2 lines 19-23)" and "(see column 4 lines 23-27)" of the Harper '398 reference. Applicant notes "column 4 lines 23-27" of the Harper '398 reference states, "Indeed, in a cluster system having more than two nodes, the secondary node 101B may not know which primary node 101A is going to fail until the failure is predicted, so it cannot have the primary node's application already running." Applicant submits "...which primary node 101A is going to fail..." teaches away from "...and at least partially on a protection switching priority...", as "...the secondary node 101B may not know which primary node 101A is going to fail until the failure is predicted..." is expressed as the sole reason why "...it cannot have the primary node's application already running." Therefore, Applicant submits the Examiner has not made a *prima facie* showing of obviousness with respect to the subject matter of claim 1. Thus, Applicant submits claim 1 is in condition for allowance.

## Claim 2:

Regarding claim 2, the Examiner states as follows:

In regards to claim 2, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Harper '398 further discloses wherein identifying the failure predicted one of said protected system elements includes assessing at least one of a plurality of failure prediction parameters of said protected system elements for determining when a failure prediction condition has been met by one of said protected system elements (see column 9 lines 15-20 of incorporated by reference Harper '266).

Regarding claim 2, Applicant reiterates Applicant's previously submitted arguments. Moreover, Applicant submits claim 2 depends from an independent claim for which Applicant now presents additional arguments. Thus, Applicant submits claim 2 is in condition for allowance.

**Claim 3:**

Regarding claim 3, the Examiner states as follows:

In regards to claim 3, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Harper '398 further discloses

monitoring a failure prediction parameter of at least one of the plurality of protected system elements (see column 9 lines 15-20 of incorporated by reference Harper '266); and

correlating a present state of the failure prediction parameter to a failure prediction criterion for determining whether the failure prediction parameter has met a failure prediction condition (see column 9 lines 15-20 of incorporated by reference Harper '266).

Regarding claim 3, Applicant reiterates Applicant's previously submitted arguments.

Moreover, Applicant submits claim 3 depends from an independent claim for which Applicant now presents additional arguments. Thus, Applicant submits claim 3 is in condition for allowance.

**Claim 5:**

Regarding claim 5, the Examiner states as follows:

In regards to claim 5, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Harper '398 further discloses wherein the monitoring the failure prediction parameter further comprises bridging the protection system element across the at least one of the plurality of the protected system elements (see column 6 lines 13-17).

Regarding claim 5, Applicant reiterates Applicant's previously submitted arguments.

Moreover, Applicant submits claim 5 depends from an independent claim for which Applicant now presents additional arguments. Thus, Applicant submits claim 5 is in condition for allowance.

**Claim 10:**

Regarding claim 10, the Examiner states as follows:

In regards to claim 10, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Downes further discloses wherein assessing performance of said protected system elements includes determining when an element demerit point level of one of said protected system elements has exceeded a predetermined element demerit point threshold limit (abstract).

Regarding claim 10, Applicant reiterates Applicant's previously submitted arguments.

Moreover, Applicant submits claim 10 depends from an independent claim for which Applicant now presents additional arguments. Thus, Applicant submits claim 10 is in condition for allowance.

**Claim 12:**

Regarding claim 12, the Examiner states as follows:

In regards to claim 12, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Downes further discloses wherein the element demerit point level corresponds to a quantity of element demerit points accumulated over a designated period of time (abstract).

Regarding claim 12, Applicant reiterates Applicant's previously submitted arguments.

Moreover, Applicant submits claim 12 depends from an independent claim for which Applicant now presents additional arguments. Thus, Applicant submits claim 12 is in condition for allowance.

**Claim 13:**

Regarding claim 13, the Examiner states as follows:

In regards to claim 13, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Downes further discloses wherein identifying the failure predicted one of said protected system elements includes determining that a rate of change of element demerit points for one of said protected system elements has exceeded a predetermined element demerit point rate of change (abstract).

Regarding claim 13, Applicant reiterates Applicant's previously submitted arguments.

Moreover, Applicant submits claim 13 depends from an independent claim for which Applicant now presents additional arguments. Thus, Applicant submits claim 13 is in condition for allowance.

**Claim 15:**

Regarding claim 15, the Examiner states as follows:

In regards to claim 15, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Entenman further discloses determining that a protection switching priority among a collection of failure predicted system elements applies to the failure predicted one of said protected system elements (see column 6 lines 38-42).

Regarding claim 15, Applicant reiterates Applicant's previously submitted arguments.

Moreover, Applicant submits claim 15 depends from an independent claim for which Applicant now presents additional arguments. Therefore, Applicant submits claim 15 is in condition for allowance.

**Claim 16:**

Regarding claim 16, the Examiner states as follows.

In regards to claim 16, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Entenman further discloses wherein implementing the protection switching operation is initiated after determining that the protection switching priority applies to the failure predicted one of said protected system elements (see column 6 lines 38-42).

Regarding claim 16, Applicant reiterates Applicant's previously submitted arguments.

Moreover, Applicant submits claim 16 depends from an independent claim for which Applicant now presents additional arguments. Therefore, Applicant submits claim 16 is in condition for allowance.

Regarding claim 16, Applicant submits the cited portions fail to render obvious the subject matter of claim 16. As an example, while the Examiner cites "(see column 6 lines 38-42)" of the Harper '398 reference as allegedly disclosing "...wherein implementing the protection switching operation is initiated after determining that the protection switching priority applies to the failure predicted one of said protected system elements," Applicant submits "In the arrangement of FIG. 2 microprocessor controlled apparatus is employed; and may allot the spare modem among the modules 10 in accordance with any desired priority algorithm (fixed or changing)" does not teach or suggest, for example, "...after determining that the protection switching priority applies to the failure predicted one of said protected system elements." Accordingly, Applicant submits the Examiner has not cited teaching as to "...wherein implementing the protection switching operation is initiated after determining that the protection switching priority applies to the failure predicted one of said protected system elements." Thus, Applicant submits the Examiner has not made a *prima facie* showing of obviousness with respect to claim 16. Therefore, Applicant submits claim 16 is in condition for allowance.

**Claim 17:**

Regarding claim 17, the Examiner states as follows:

In regards to claim 17, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Entenman further discloses wherein determining that the protection switching priority applies to the failure predicted one of said protected system elements includes assessing a protection switching priority parameter for each system element of the collection of failure predicted system elements (see column 6 lines 38-42).



Regarding claim 17, Applicant reiterates Applicant's previously submitted arguments. Moreover, Applicant submits claim 17 depends from an independent claim for which Applicant now presents additional arguments. Therefore, Applicant submits claim 17 is in condition for allowance.

**Claim 18:**

Regarding claim 18, the Examiner states as follows:

In regards to claim 18, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Downes further discloses wherein assessing the protection switching parameter includes assessing at least one of a parameter relating to element demerit points, a parameter relating to a rate of change of said element demerit points, a parameter relating to an element demerit point threshold limit, a parameter relating to a number of active connections, a parameter relating to a number of active service subscribers, a parameter designated in a service agreement, a mounted position in a network element, an administrator-assigned priority value, a data bit rate and a rate of change of the data bit rate (abstract).

Regarding claim 18, Applicant reiterates Applicant's previously submitted arguments. Moreover, Applicant submits claim 18 depends from an independent claim for which Applicant now presents additional arguments. Therefore, Applicant submits claim 18 is in condition for allowance.

**Claim 19:**

Regarding claim 19, the Examiner states as follows:

In regards to claim 19, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Harper '398 further discloses:

downloading service information of the failure predicted one of said protected system elements to the protection system element after identifying the failure predicted one of said protected system elements (see column 6 lines 14-17);

confirming failure of the first failure predicted one of said protected system elements (see column 6 lines 18-25); and

switching communication service supported by the failure predicted one of said protected system elements for being supported by to the protection system element after confirming said failure (see column 6 lines 21-25).

Regarding claim 19, Applicant reiterates Applicant's previously submitted arguments. Moreover, Applicant submits claim 19 depends from an independent claim for which Applicant now presents additional arguments. Thus, Applicant submits claim 19 is in condition for allowance.

**Claim 23:**

Regarding claim 23, the Examiners states as follows:

In regards to claim 23, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Harper '398 further discloses wherein the protection system element provides protection switching functionality exclusively for all of said protected system elements (see column 6 lines 35-40).

Regarding claim 23, Applicant reiterates Applicant's previously submitted arguments.

Moreover, Applicant submits claim 23 depends from an independent claim for which Applicant now presents additional arguments. Thus, Applicant submits claim 23 is in condition for allowance.

**Claim 27:**

Regarding claim 27, the Examiner states as follows:

In regards to claim 27, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Harper '398 further discloses wherein identifying the failure predicted one of said protected system elements includes determining that a failure prediction parameter associated with the failure predicted one of said protected system elements has exceeded a failure prediction parameter first threshold limit (see column 9 lines 6-10 and 25-28 of incorporated by reference Harper '266).

Regarding claim 27, Applicant reiterates Applicant's previously submitted arguments.

Moreover, Applicant submits claim 27 depends from an independent claim for which Applicant now presents additional arguments. Thus, Applicant submits claim 27 is in condition for allowance.

**Claim 29:**

Regarding claim 29, the Examiner states as follows:

In regards to claim 29, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Harper '398 further discloses wherein the protection system element provides protection switching functionality exclusively for all of said protected system elements (see column 6 lines 35-37).

Regarding claim 29, Applicant reiterates Applicant's previously submitted arguments.

Moreover, Applicant submits claim 29 depends from an independent claim for which Applicant now presents additional arguments. Thus, Applicant submits claim 29 is in condition for allowance.

**Claim 30:**

Regarding claim 30, the Examiner states as follows:

In regards to claim 30, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Harper '398 further discloses configuring protection switching variables associated with the protection switching operation (see column 9 lines 7-14 of incorporated by reference Harper '266).

Regarding claim 30, Applicant reiterates Applicant's previously submitted arguments.

Moreover, Applicant submits claim 30 depends from an independent claim for which Applicant now presents additional arguments. Thus, Applicant submits claim 30 is also in condition for allowance.

**Claim 35:**

Regarding claim 35, the Examiner states as follows:

In regards to claim 35, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Harper '398 further discloses wherein identifying the failure predicted one of said protected system elements includes assessing a protection switching operation initiation notification issued via a system administrator user interface (see column 4 lines 20-22 of incorporated by reference Harper '266).

Regarding claim 35, Applicant reiterates Applicant's previously submitted arguments.

Moreover, Applicant submits claim 35 depends from an independent claim for which Applicant now presents additional arguments. Thus, Applicant submits claim 35 is in condition for allowance.

**Claim 36:**

Regarding claim 36, the Examiner states as follows:

In regards to claim 36, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Harper '398 further discloses:

downloading service information of the failure predicted one of said protected system elements to the protection system element after identifying the failure predicted one of said protected system elements (see column 6 lines 14-17);

switching communication service supported by the failure predicted one of said protected system elements for being supported by to the protection system element after downloading said service information (see column 6 lines 21-25) but before an actual failure (column 4, lines 11-17).

Regarding claim 36, Applicant submits the cited portions of the cited references fail to render obvious the subject matter of claim 36. Applicant reiterates Applicant's previously submitted

arguments. Moreover, Applicant submits claim 36 depends from an independent claim for which Applicant now presents additional arguments. Furthermore, while the Examiner cites "(column 4, lines 11-17)" to allege teaching as to "but before an actual failure," Applicant notes the Examiner cites "(see column 6 lines 21-25)" as allegedly disclosing "switching communication service supported by said failure predicted one of said protected system elements for being supported by to the protection system element after downloading said service information...." Applicant notes "column 6 lines 18-25" states as follows:

In step 460, it is determined whether the primary node has failed. If not (e.g., a 'NO' in step 460), then the process continues by looping to step 460 again.

If it is determined that the primary node has failed (e.g., a 'YES' in step 460), then the process continues to step 470 at which time the secondary node becomes the primary node, and the primary node is rebooted and subsequently becomes the secondary node.

Applicant submits such teaching explicitly teaches away from the Examiner's allegation of teaching as to "but before an actual failure." Thus, Applicant submits the Examiner has not made a *prima facie* showing of obviousness with respect to claim 36. Therefore, Applicant submits claim 36 is in condition for allowance.

**Rejection of claims 11, 24-26, and 28 under 35 U.S.C. § 103(a):**

The Examiner has rejected claims 11, 24-26, and 28 under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 6,978,398 (Harper '398 (which incorporates by reference Harper '266)) in view of U.S. Patent No. 4,245,342 of Entenman and US Patent No. 4,769,761 of Downes et al., and further in view of US Patent No. 6,771,440 of Smith.

**Claim 11:**

Regarding claim 11, the Examiner states as follows:

In regard to claim 11, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. However, Harper '398 in view of Entenman and Downes fails to explicitly disclose:

wherein the predetermined element demerit point threshold limit is associated with a first level of failure probability, lower than an element demerit point threshold limit corresponding to a next higher level of failure probability.

Smith discloses a system wherein a first threshold triggers a predictive failure analysis and a second threshold greater than the first threshold signifies a failure (see column 6 lines 620).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Harper, Entenman, Downes, and Smith to include a second threshold that signifies a failure in addition to a first threshold that predicts a failure, indicating wherein the predetermined element demerit point threshold limit is associated with a first level of failure probability, lower than an element demerit point threshold limit corresponding to a next higher level of failure probability. A person of ordinary skill in the art could have been motivated to combine the teachings because Harper discloses a first threshold that predicts a failure is to follow (see column 9 lines 7-14 and lines 25-30 of incorporated by reference Harper '266) and is further concerned with signifying a system element has failed (see column 6 lines 5-25) and having a second threshold that signifies a failure, as per teachings of Smith (see column 6 lines 6-20), provides a known and suitable means to signifying the system element has failed.

With respect to claim 11, Applicant reiterates Applicant's previously submitted arguments. Moreover, Applicant submits claim 11 depends from an independent claim for which Applicant now presents additional arguments. Thus, Applicant submits claim 11 is in condition for allowance.

#### **Claim 24:**

Regarding claim 24, the Examiner states as follows:

In regards to claims 24, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. Harper '398 further discloses:

wherein identifying the failure predicted one of said protected system elements includes determining that a failure prediction parameter associated with the failure predicted one of said protected system elements has exceeded a failure prediction parameter first threshold limit (see column 9 lines 6-10 and 25-28 of incorporated by reference Harper '266);

Harper further discloses said switching communication service is initiated in response to determining the protected system element has failed. Harper discloses if it is determined that the primary node has failed, then the process continues at which time the secondary node becomes the primary node (see column 6 lines 21-25).

However, Harper '398 in view of Entenman and Downes fails to explicitly disclose:

said switching communication service is initiated in response to the failure prediction parameter exceeding a failure prediction parameter second threshold limit different than the failure prediction parameter first threshold limit.

Smith discloses a system wherein a first threshold triggers a predictive failure analysis and a second threshold greater than the first threshold signifies a failure (see column 6 lines 620).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Harper, Entenman, Downes, and Smith to include a second threshold that signifies a failure in addition to a first threshold that predicts a failure, thus indicating said switching communication service is initiated in response to the failure prediction parameter exceeding a failure prediction parameter second threshold limit different than the failure prediction parameter first threshold limit. A person of ordinary skill in the art could have been motivated to combine the teaching because Harper discloses a first threshold that predicts a failure is to follow (see column 9 lines 7-14 and lines 25-30 of incorporated by reference Harper '266) and is further concerned with signifying a system element has failed (see column 6 lines 525) and having a second threshold that

signifies a failure, as per teachings of Smith (see column 6 lines 6-20), provides a known and suitable means to signifying the system element has failed.

With respect to claim 24, Applicant reiterates Applicant's previously submitted arguments. Moreover, Applicant submits claim 24 depends from an independent claim for which Applicant now presents additional arguments. Thus, Applicant submits claim 24 is also in condition for allowance.

**Claim 25:**

Regarding claim 25, the Examiner states as follows:

In regards to claim 25, Harper '398 in view of Downes, Entenman, and Smith discloses the claim limitations as discussed above. Smith further discloses:

wherein the failure prediction first threshold limit is associated with a first level of failure probability and the failure prediction second threshold limit is associated with a second level of failure probability higher than the first level of failure probability (see column 6 lines 12-13).

As to claim 25, Applicant reiterates Applicant's previously submitted arguments. Moreover, Applicant submits claim 25 depends from an independent claim for which Applicant now presents additional arguments. Thus, Applicant submits claim 25 is also in condition for allowance.

**Claim 26:**

Regarding claim 26, the Examiner states as follows:

In regards to claim 26, Harper '398 in view of Downes, Entenman, and Smith discloses the claim limitations as discussed above. Harper '398 further discloses:

wherein identifying the failure predicted one of said protected system elements includes determining that a failure prediction parameter associated with the failure predicted one of said protected system elements has exceeded a failure prediction parameter first threshold limit (see column 9 lines 6-10 and 25-28 of incorporated by reference Harper '266);

Harper further discloses confirming failure includes determining the protected system element has failed (see column 6 lines 21-25).

However, Harper '398 in view of Entenman and Downes fails to explicitly disclose:

confirming failure includes determining that the failure prediction parameter has exceeded a failure prediction parameter second threshold limit different than the failure prediction parameter first threshold limit.

Smith discloses a system wherein a first threshold triggers a predictive failure analysis and a second threshold greater than the first threshold signifies a failure (see column 6 lines 620).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Harper, Entenman, Downes, and Smith to include a second threshold that signifies a failure in addition to a first threshold that predicts a failure, thus indicating confirming failure includes determining that the failure prediction parameter has exceeded a failure prediction parameter second threshold limit different than the failure prediction parameter first threshold limit. A person of ordinary skill in the art could have been motivated to combine the teaching because Harper discloses a first threshold that predicts a failure is to follow (see column 9 lines 7-14 and lines 25-30 of incorporated by reference Harper '266) and is further concerned with signifying a system element has failed (see column 6 lines 5-25) and having a second threshold that signifies a failure, as per teachings of Smith (see column 6 lines 6-20), provides a known and suitable means to signifying the system element has failed.

With respect to claim 26, Applicant reiterates Applicant's previously submitted arguments. Moreover, Applicant submits claim 26 depends from an independent claim for which Applicant now presents additional arguments. Thus, Applicant submits claim 26 is also in condition for allowance.

**Claim 28:**

Regarding claim 28, the Examiner states as follows:

In regards to claim 28, Harper '398 in view of Entenman and Downes discloses the claim limitations as discussed above. However, Harper '398 in view of Entenman and Downes fails to explicitly disclose:

wherein implementing said protection switching operation is performed in response to determining that the failure prediction parameter has exceeded a failure prediction parameter second threshold limit different than the failure prediction parameter first threshold limit.

Smith discloses a system wherein a first threshold triggers a predictive failure analysis and a second threshold greater than the first threshold signifies a failure (see column 6 lines 620).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Harper, Entenman, Downes, and Smith to include a second threshold that signifies a failure in addition to a first threshold that predicts a failure, thus indicating wherein implementing said protection switching operation is performed in response to determining that the failure prediction parameter has exceeded a failure prediction parameter second threshold limit different than the failure prediction parameter first threshold limit. A person of ordinary skill in the art could have been motivated to combine the teaching because Harper discloses a first threshold that predicts a failure is to follow (see column 9 lines 7-14 and lines 25-30 of incorporated by reference Harper '266) and is further concerned with signifying a system element has failed (see column 6 lines 5-25) and having a second threshold that signifies a failure, as per teachings of Smith (see column 6 lines 6-20), provides a known and suitable means to signifying the system element has failed.

With respect to claim 28, Applicant reiterates Applicant's previously submitted arguments. Moreover, Applicant submits claim 28 depends from an independent claim for which Applicant now presents additional arguments. Thus, Applicant submits claim 28 is in condition for allowance.

**Rejection of claims 53 under 35 U.S.C. § 103(a):**

The Examiner has rejected claim 53 under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 6,978,398 (Harper '398 (which incorporates by reference Harper '266)) in view of U.S. Patent No. 4,245,342 of Entenman and of US Patent No. 6,771,440 of Smith.

**Claim 53:**

Regarding claim 53, the Examiner states as follows:

In regards to claim 53, Harper '398 in view of Entenman discloses the claim limitations as discussed above. Harper '398 further discloses:

wherein identifying the failure predicted one of said protected system elements includes determining that a failure prediction parameter associated with the failure predicted one of said protected system elements has exceeded a failure prediction parameter first threshold limit (see column 9 lines 6-10 and 25-28 of incorporated by reference Harper '266);

Harper further discloses confirming failure includes determining the protected system element has failed (see column 6 lines 21-25).

However, Harper '398 in view of Entenman fails to explicitly disclose:

confirming failure includes determining that the failure prediction parameter has exceeded a failure prediction parameter second threshold limit different than the failure prediction parameter first threshold limit.

Smith discloses a system wherein a first threshold triggers a predictive failure analysis and a second threshold greater than the first threshold signifies a failure (see column 6 lines 620).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Harper, Entenman, and Smith to include a second threshold that signifies a failure in addition to a first threshold that predicts a failure, thus indicating confirming failure includes determining that the failure prediction parameter has exceeded a failure prediction parameter second threshold limit different than the failure prediction parameter first threshold limit. A person of ordinary skill in the art could have been motivated to combine the teaching because Harper discloses a first threshold that predicts a failure is to follow (see column 9 lines 7-14 and lines 25-30 of incorporated by reference Harper '266) and is further concerned with dignifying a system element has failed (see column 6 lines 525) and having a second threshold that signifies a failure, as per teachings of Smith (see column 6 lines 6-20), provides a known and suitable means to signifying the system element has failed.

With respect to claim 53, Applicant reiterates Applicant's previously submitted arguments. Moreover, Applicant submits claim 53 depends from an independent claim for which Applicant now presents additional arguments. Therefore, Applicant submits claim 53 is in condition for allowance.



**Rejection of claims 54 under 35 U.S.C. § 103(a):**

The Examiner has rejected claim 54 under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 6,978,398 of Harper '398 in view of U.S. Patent No. 4,769,761 of Downes et al.

**Claim 54:**

Regarding claim 54, the Examiner states as follows:

In regards to claim 54, Harper '398 discloses an apparatus capable of facilitating protection switching, comprising:

a plurality of protected system element(see column 4 lines 23-27).

a protection system element including a data processor and capable of providing protection switching functionality for at least one of said protected system elements (see column 2 lines 23-26).

a data processor program wherein the data processor program is capable of enabling the protection system elements to facilitate (see column 2 lines 23-26.)

identifying a failure predicted one (see column 2 lines 19-23) of a plurality of protected system elements (see column 4 lines 23-27).

implementing a protection switching operation for switching designated information from the failure predicted one of said protected system elements to a protection system element (see column 2 lines 23-26).

However, Harper fails to explicitly disclose:

wherein identifying the failure predicted on of said protected system elements includes determining the rate of change of element demerit points for one of said protected system elements has exceeded a predetermined element demerit point rate of change threshold limit.

Downes discloses the concept of predicting a failure upon determination the error count over a selected number of operations is above a criterion or threshold (abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Harper and Downes to further including predicting a failure upon determination the error count over a selected number of operations is above a criterion or threshold, thus indicating wherein identifying the failure predicted on of said protected system elements includes determining the rate of change of element demerit points for one of said protected system elements has exceeded a predetermined element demerit point rate of change threshold limit. A person of ordinary skill in the art could have been motivated to combine the teachings because Harper is concerned with detecting degradation of performance of a computer system (see column 1 lines 60-65), and monitoring the error count over a selected number of operations, as per teachings of Downes (abstract), constitutes as suitable known means to detect degradation of performance of a computer system.

With respect to claim 54, Applicant notes the Examiner cites "(see column 2 lines 19-23)" and "(see column 4 lines 23-27)" of the Harper '398 reference as allegedly disclosing "identifying a failure predicted one of said protected system elements...." Applicant submits "In a third aspect, a method (and system) of maintaining performance of a primary node in a computer system, includes monitoring the primary node of the computer system, determining whether the primary node is failing or about to fail..." and "Indeed, in a cluster system having more than two nodes, the secondary node 101B may not know which primary node 101A is going to fail until the failure is predicted, so it cannot have the primary node's application already running" do not teach or suggest, for example, "identifying a failure predicted one of said protected system elements, wherein identifying the failure predicted one of said protected system elements includes determining that a rate of change of element demerit points for one of said protected system elements has exceeded a predetermined element demerit point rate of change threshold limit." While the Examiner acknowledges "However, Harper fails to explicitly disclose: wherein identifying the failure predicted on of said protected system elements includes determining the rate of change of element demerit points for one of said protected system elements has exceeded a predetermined element demerit point rate of change threshold limit" and alleges "Downes discloses the concept of predicting a failure upon determination the error count over a selected number of operations is above a criterion or threshold (abstract)," Applicant respectfully disagrees. Applicant submits the abstract of the Downes reference fails to disclose "...over a selected number of operations..." as alleged by the Examiner. Moreover, Applicant submits the alleged "...concept of predicting a failure upon determination the error count...is above a criterion or threshold" does not disclose or suggest "...wherein identifying the failure predicted one of said protected system elements includes determining that a rate of change of element demerit points for one of said protected system elements has exceeded a predetermined element demerit point rate of change threshold limit" or even "a rate of change of element demerit points for one of said protected system elements" or "a predetermined element demerit rate of change threshold limit." Therefore, Applicant submits the Examiner has not made a *prima facie* showing of obviousness with respect to claim 54. Thus, Applicant submits claim 54 is in condition for allowance.

As Applicant stated previously, Applicant submits Downes' teaching as to clearing the "exception log" appears to delete the "error counts." Applicant submits, while the Examiner alleges "Downes discloses the concept of predicting a failure upon determination the error count over a selected number of operations is above a criterion or threshold (see column 1 lines 60-65)," deleting

the "error counts" upon which Downes apparently depends would prevent "determining the rate of change of element demerit points..." even if the teachings of the cited portion of the Downes reference did disclose the subject matter alleged by the Examiner, which Applicant disputes. Thus, Applicant submits claim 54 is in condition for allowance.

**Allowance of claims 37-44 and 55 and objection to claims 4, 6-8, 14, 20-22, 31-33, and 46-48:**

The Examiner has allowed claims 37-44 and 55 and has objected to claims 4, 6-8, 14, 20-22, 31-33, and 46-48 as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In conclusion, Applicant has overcome all of the Office's rejections, and early notice of allowance to this effect is earnestly solicited. If, for any reason, the Office is unable to allow the Application on the next Office Action, and believes a telephone interview would be helpful, the Examiner is respectfully requested to contact the undersigned attorney.

Respectfully submitted,

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Date



Ross D. Snyder, Reg. No. 37,730  
Attorney for Applicant(s)  
Ross D. Snyder & Associates, Inc.  
PO Box 164075  
Austin, Texas 78716-4075  
(512) 347-9223 (phone)  
(512) 347-9224 (fax)